

Photonics

Accelerating light-based technologies.

Photonics is the science of generating, controlling and detecting light. It supports applications like data communications, optical computing, LiDAR, optical sensing and high-efficiency solar panels. Photonic integration is crucial for AI growth by reducing energy and environmental costs in data centers. It's also vital for IoT sensors and connectivity.

Services

Challenge Funding

Challenges grant targeted funding for both Fabrication Process and IoT Commercial Product development.

Training

FABrIC offers many options, from introductory courses to intensive training.

- > Technology for Non-techies (TNT) series
- > Hands-on training on silicon and quantum photonics
- > Design, layout and packaging training

Affordable Access to Design and Prototyping Services

Available for Canadian post-secondary research and teaching, these services require a paid subscription from CMC. It offers access to cutting-edge design tools and advanced fabrication services, both internationally and domestically, for superconducting, silicon photonics and quantum devices.

Multi-Project Wafer (MPW)

Services from commercial vendors for prototyping through to high volume.

Foundry technologies

- > Advanced Micro Foundry
Silicon Photonics
- > Applied NanoTools NanoSOI,
Silicon Nitride Fabrication Process
- > Ferinand Braun Institut Compound
Semiconductor Epitaxy
- > GlobalFoundries® 28SLPe,
GF Fotonix™ Silicon Photonics

Packaging and Assembly

A range of services.

Custom Fabrication

A network of university-based nanofabrication facilities and not-for-profit research organizations.

Technology Platforms

Open-source hardware and software.



Powered by



FABrIC accelerates the development of made-in-Canada IoT products and semiconductor manufacturing processes, trains Canadian talent, strengthens supply chains, and builds connections across the Canadian semiconductor ecosystem.

FABrIC DELIVERS

- > **Challenge Funding:** Process and product development investments
- > **Revitalized Ecosystem:** Domestic strengths, international connections
- > **Training:** A pipeline of highly qualified people
- > **IP Registry and Repository:** Faster semiconductor research, development, and commercialization
- > **Quantum Readiness:** Early access to quantum technology to propel companies to the forefront
- > **Design and Prototyping Services:** Low-cost access for post-secondary institutions

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info@fabricinnovation.ca

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